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'He left me a message on Facebook': comparing the risk profiles of self-harming patients who leave paper suicide notes with those who leave messages on new media

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"He left me a message on Facebook": Comparing the risk profiles of self-harming patients who leave paper suicide notes with those who leave messages on new media.

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Summary

In cases of non-fatal self-harm, suicide notes are a major risk factor for repeated self-harm and suicide. Suicide notes can now be left on new media services, emails or text messages, as well as on paper. In a group of people who had harmed themselves, we compared new media note-leavers with paper note-leavers and characterised these groups demographically and by risk factors. New media note-leaving was associated with younger age and substance use; both risk factors for repeated self-harm. However suicidal intent remained highest in paper note-leavers. Clinicians should enquire about new media use during Emergency Department assessments of self-harm. **Declaration of Interest:** None.

Introduction

The leaving of a suicide note in an episode of non-fatal self-harm is a risk factor for future self-harm and suicide.[1] Suicide notes may be left on paper or electronically via chat rooms, blogs, video-sharing websites, forums, social networks, email and SMS (text message).[2] Because this form of note becomes available to others immediately, it perhaps provides a window of opportunity for intervention.[3] We aimed to quantify the fraction of self-harm presenters to Emergency Departments (EDs) who use new media to leave a note to observe the frequency of this behaviour and to compare those who leave a new media note, those who leave a paper note and those who did not leave a note to assess differential levels of risk between the groups. Secondary aims were to characterise these groups demographically and with reference to their specific suicide risk factors and to describe the uses to which new media are put by people who have harmed themselves.

Method

SHIELD is a service improvement project for self-harm run in two London teaching hospitals by which mental health teams systematically collect data on non-fatal self-harm presentations. On 18 March 2013, we searched electronic mental health medical records of these non-fatal self-harm presentations during 2011 and 2012 (n = 2517) to find mentions of new media use. We used the Clinical Record Interactive Search (CRIS)[4] tool which allows authorised users to search de-identified electronic health records held within South London and Maudsley NHS Foundation Trust. De-identified free-text clinical notes and correspondences from 7 days prior to 7 days following the non-fatal self-harm presentation were searched. The search terms used to identify new media use were the most popular social media sites at the time, including Facebook and Twitter, and also general related terms, such as Internet and Text. Full notes for health records which had one or more 'hits' on the selected search terms were obtained to gain contextual insight. Each record was coded into one of the following categories based on the content of the clinicians' notes:

a) 'False positive' (a search 'hit' not relevant to this study – e.g. one professional emailing another);
b) Not note-leaving in nature (e.g. new media as a precipitator);
c) Goodbye note;
d) Help-seeking note;
e) Note highlighting distress but neither help-seeking nor saying goodbye;
f) Reproachful note;
g) Content of note not described;
h) Other.

These data were merged with the self-harm dataset generated by SHIELD to retrieve demographic and presentation information.

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SHIELD also records whether a note was left in each presentation. Using this information we were able to identify which presentations had left a paper note.

Statistical analyses were performed using IBM SPSS for Macintosh, version 21.0 and Stata 10 for Windows.

Results

There were 86 who left a new media note. Most had information available from the self-harm database (*n* = 66). The most common type of notes were those notifying others of intent or distress but were not help-seeking, saying goodbye or committing to actions (*n* = 29). Goodbye notes (*n* = 23) and help-seeking notes (*n* = 22) followed in frequency, with unknown or ambiguous note content (*n* = 7), notes with content other than those listed (*n* = 3) and reproachful notes (*n* = 2) last. Text message was the medium used most frequently (*n* = 76), followed by Facebook (*n* = 7), Email (*n* = 4) and Blog (*n* = 1). Two self-harm presenters left notes on more than one medium (Text and Email).

In the sample of 66 new media note-leavers who also had data available on the self-harm database, 20 left a help-seeking message. These were placed in the no-note group as these are not directly comparable to paper notes. Two of the 66 also left a paper note so were excluded from analysis as the different note leaving behaviours cannot be compared in these instances. These two patients had low Beck Suicide Intent Scale (BSIS)[6] scores (both scored 5 out of 30 – all of which were scored on the objective questions) in comparison to paper note leavers (median score=16).

The final sample included 1435 non-fatal self-harm presentations where a link was possible and data were available on the self-harm database. Of these, 1320 did not leave a suicide note, 44 left a new media suicide note and 71 left a paper suicide note, see Figure 2 (online supplement).

Median BSIS scores (with the suicide note items removed) and interquartile ranges for each type of note-leaving group can be seen in Figure 1. All groups were compared by Mann-Whitney U tests. The Paper Note group had greater BSIS scores than the other two groups, which were similar to each other (p = 0.40).

[FIGURE 1 HERE]

Figure 1. Median Beck Suicide Intent Scale scores and intra-quartile ranges for each note-leaving group.

Multinomial regression models simultaneously compared the three groups of note-leavers, see Table 1 (online supplement). Comparisons were made for both the "large" sample (*n* = 1435) and the "small" sample (records with complete data across all co-variates (age, gender, low vs high BSIS score (cut-off=6/7), past self-harm, psychiatric history, married vs single, divorced vs single, substance use, suicide in family) (*n* = 256). For these analyses, question 7 of the BSIS (presence of a suicide note) was omitted.

Leaving a new media note (compared with no note) is less common among older participants and more common among co-habiting and substance using participants. Leaving a paper note (compared to no note) is more common among those with a higher BSIS score and less common among those with a family history of suicide. Leaving a paper note (compared with a new media note) is more common among the older participants and those with a higher BSIS score.

Discussion

Findings of younger age and substance use are consistent with previously reported self-harm risk factors.[1 8 9] Those who have partners have someone to leave a note for, so may be expected to be more likely to leave a note, independent of risks indicated by note-leaving. Against our expectations, those with a family history of suicide were less likely to leave notes than those without. Finally, higher BSIS scores in paper note-leavers compared to new media note-leavers, suggests paper notes indicate a more risky profile. This may be expected because new media notes require less planning and preparation so may be left more impulsively. Loss of data at several stages of data extraction, along with the large volume of missing data within the self-

harm database, poses problems for interpretation. Because the final sample, containing only records with data across all variables, is much smaller than the initial sample, this may have affected results. The main reason for missing data is the collection of data within SHIELD: Some clinicians completed data collection at the assessment stage, whilst others collected the data retrospectively using the information in the clinical notes. This means that if the information was not contained within the notes there would be a missing data point. This is also true for the categorisation and identification of new media notes. Despite the missing data, with only one exception, the results of the smaller multivariable analyses agree with the larger univariable analyses suggesting the samples are not too dissimilar. Imputation was not used because the variables are categorical and imputation can cause bias in this circumstance.[7]

From this preliminary investigation into the similarities and differences between paper note- and new media note-leavers, we can see new media use is related to risk factors for repeated self-harm and later suicide such as younger age and substance use, while paper notes still indicate a higher level of suicidal intent.

We found 5% of people who harmed themselves left a new media note. This figure is likely to be an underestimate because they were not asked directly. Further, we found new media are often not being used to communicate distress in the same way to that expected from an 'ordinary' paper suicide note – there were 'help-seeking' and 'reproachful' notes as well as the 'goodbye' type expected of paper notes.

Because of the differential risks, we recommend enquiring about new media use during ED assessments of people who have harmed themselves. We also recommend further research into the different ways in which new media are used in the context of self-harm, and into how clinicians and the public should best respond to communications of this kind.

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Author Contributions

WL conceived the study. JB, SC and WL designed the study, with advice from MH, RS and MB. SC provided the cohort and merged the extracted data with the self-harm database for analysis. MB and HS piloted the study search. HS conducted the search strategy and extracted data. JB analysed data and wrote the manuscript. SC and WL supervised the project. All authors contributed to final approval of manuscript.

Ethical Statement

The Oxfordshire Research Ethical Committee C approved CRIS as a data resource (08/H0606/71+5).

References

1 Barr W, Leitner M, Thomas J. Self-harm or attempted suicide? Do suicide notes help us decide the level of intent in those who survive? *Accid Emerg Nurs* 2007; **15** (3): 122-7.

2 Luxton DD, June JD, Fairall JM. Social media and suicide: a public health perspective. *Am J Public Health* 2012; **102** (suppl 2): S195-200.

3 Ruder TD, Hatch GM, Ampanozi G, Thali MJ, Fischer N. Suicide announcement on Facebook. *Crisis* 2011; **32** (5): 280-2.

4 Perera G, Broadbent M, Callard F, Chang C-K, Downs J, Dutta R, et al. Cohort profile of the South London and Maudsley NHS Foundation Trust Biomedical Research Centre (SLaM BRC) Case Register: current status and recent enhancement of an Electronic Mental Health Record derived data resource. *BMJ Open* 2016; **6**: e008721.

5 List of social networking websites. Wikipedia, 2012 [cited 6 December 2012]. Available from: http://en.wikipedia.org/wiki/List_of_social_networking_websites.

6 Beck AT, Schuyler D, Herman I. Development of suicidal intent scales. In *The prediction of suicide* (eds AT Beck, HLP Resnik, DJ Lettieri): 45-56. Charles Press, 1974.

7 Sterne JA, White IR, Carlin JB, Spratt M, Royston P, Kenward MG, et al. Multiple imputation for missing data in epidemiological and clinical research: potential and pitfalls. *BMJ* 2009; **338**: b2393.

8 Posner K, Melvin GA, Stanley B, Oquendo MA, Gould M. Factors in the assessment of suicidality in youth. *CNS Spectr*; 2007; **12**(2): 156–62.

9 Morgan HG, Burns-Cox CJ, Pocock H, Pottle S. Deliberate Self-Harm: Clinical and Socio-Economic Characteristics of 368 Patients. *Br J Psychiatry* 1975; **127**(6): 564–74.